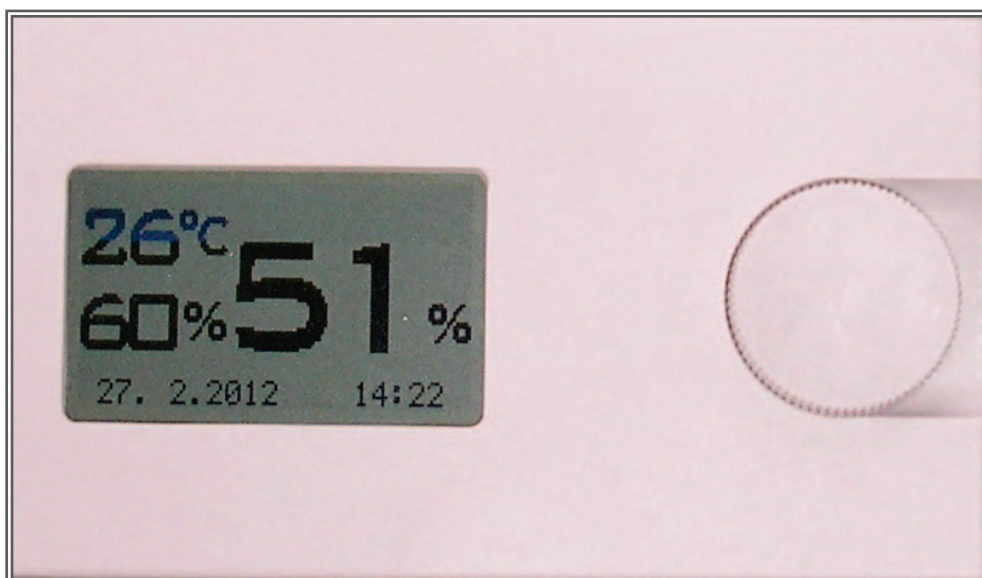

DRY PRECISION 100

Humidistat



User´s manual



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This device provides a remote control of the dehumidifier. It has got the following functions:

- Relative humidity measuring
- Air temperature measuring
- Requested humidity setting and the product's switching on
- Requested temperature setting and heating's switching on
- Radio frequency remote control of the dehumidifier with a backward monitoring of the current status
- Recording of the measured data in set time intervals and their saving in the internal memory
- Measured data transmission into the superior system by USB pen
- Lightened LCD display with big numerals

TECHNICAL PARAMETERS

Control unit

- | | |
|---|-----------------------------------|
| - Accuracy of relative humidity measuring | $\pm 1 \%$ |
| - Accuracy of temperature measuring | $\pm 1 \text{ }^{\circ}\text{C}$ |
| - Adjustable correction of relative humidity display | $\pm 99 \%$ |
| - Adjustable correction of temperature display | $\pm 10 \text{ }^{\circ}\text{C}$ |
| - Adjustable range of hysteresis of humidity switching | 1-10 % |
| - Adjustable range of hysteresis of temperature switching | 1-10 $^{\circ}\text{C}$ |
| - Radio communication frequency | 2,4GHz |
| - Internal memory capacity | 4096 (records) |
| - Power supply | by 2 alkaline batteries AA |

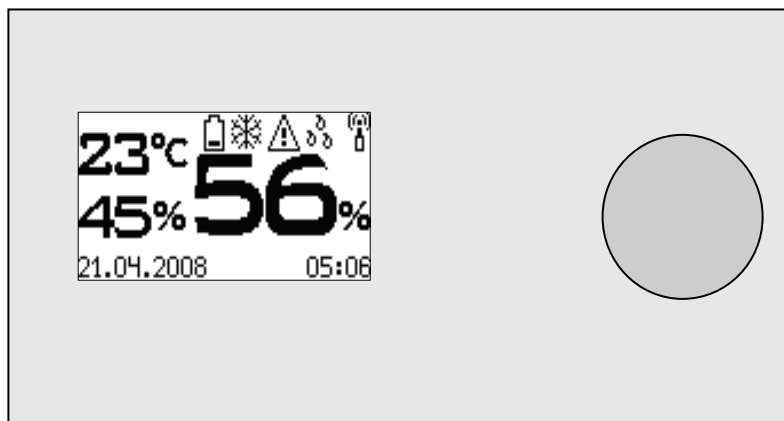
Switching unit

- | | |
|--------------------------------------|---------|
| - Power supply | 230 VAC |
| - Input | 2 VA |
| - Max. current of switching elements | 3 A |

PRODUCT CONTROL BY THE USER

The control unit has got the following control elements

- Rotary wheels with confirmation function (when pressing)
- Display unit



In a basic status the unit displays:

- Air temperature
- Set requested relative air humidity
- Measured relative air humidity
- Actual date and accurate time display in the bottom line
- Displaying the following informational icons in the upper line: radio signal presence, dehumidification, heating, defrosting, device failure, battery change indicating icon

SETTING OF THE REQUESTED HUMIDITY

Set the requested humidity by wheel revolution. The set value can be monitored on the display. During the setting the lighting is switched on for a certain time. It is also possible to turn on the lighting for monitoring the measured values, by pushing the wheel. This does not need any setting changes. The lighting function is activated only in case of permitting it in the device's settings.

SETTING OF THE REQUESTED TEMPERATURE

Press the wheel in the requested humidity display mode. The lighting will turn on. During a time period of the lighting press the wheel one more time. (In case the lighting function is not permitted on your device, press the wheel only once.)

The requested temperature is shown down, on the left part of the display. Set the requested temperature by wheel revolution. The set value can be monitored on the display. During the setting the lighting is on for a certain time. It is also possible to turn on the lighting for monitoring the measured values, by pushing the wheel. This does not need any setting changes. The lighting function is activated only in case of permitting it in the device's settings.

DATE AND TIME SETTING

Press the wheel in the requested temperature display mode – the lighting will switch on. During a time period of the lighting press the wheel one more time. (In case the lighting function is not permitted on your device, press the wheel only once.)

The accurate time will be shown on the display by big numerals. By wheel revolution set hour and then by pressing it confirm the setting. The setting of minutes, day, month, year and date is done in a similar way.

After conforming the year by pressing the wheel you will return to the requested humidity display mode.

SCREEN SAVER

After a certain time of inactivity the measuring unit turns off the display due to the batteries' energy saving. Meanwhile the measuring and control functions stay active. If the screen saver is active, there will be an arrow showing towards the wheel displayed for a short time and in regular intervals, or the indicator located under the display blinks - depending on the set device parameters.

It is possible to return to the basic state anytime by pressing the wheel.

The screen saver function is activated only in case of permitting in the device settings.

BATTERY CHANGE

The device will signalize a need of battery change by showing a discharged battery icon in the upper part of the screen. In case the screen saver is switched on, this icon will blink simultaneously with the arrow in the left part of the display or the indicator light of the saver will blink twice.

Batteries – two alkaline pencilling batteries AA are accessible after the plastic cover removing.

Carefully remove the control wheel with a small, thin object (i.e. with a knife) in a following way:

Insert the knife under the wheel from the right hand side and then pull it toward yourself gently.

Grasp the plastic cover and by pulling the bottom part release it and then remove it. Change the batteries by paying attention at the right polarity. Mount the cover. After the change set the accurate time and date.

It is recommended to use lithium AA „Energizer Ultimate Lithium“ batteries (sometimes labelled as Energizer L91). These batteries last longer in comparison with the usual alkaline batteries AA. The batteries are not accessible from another manufacturers, as Energizer company has got a patent at its technology.



Lithium batteris Energizer Ulitimate Lithium

PRODUCT FUNCTIONS

After inserting the batteries the welcome logo is displayed with a software version and the equipment's initialisation starts running. The first measuring and evaluation are performed. Afterwards the equipment tries to make a radio connection with the switching unit. The time is set on 12:00, date on 1.1.2009 and in case the connection is made, the first record with these time details is registered. When performing backward monitoring it is possible to determine the battery change realization.

The periodical recording of measured values and equipment status gets started. After making the connection with the switching unit, the data are cyclically and in a set period transmitted into the switching unit for recording. When the memory is full, the oldest data rewriting gets started. It is not possible to delete the memory and it is either not possible to stop the recording – by this the reliability of the equipment's past status detection is ensured. Just before each record the radio connection is made and the equipment status is detected.

After the period of measuring set in a „6“ parameter has passed, the air humidity and - temperature measuring is realized by an inbuilt sensor. Afterwards these data are evaluated. If it is important to turn on/off the dehumidification, a radio signal is transmitted into the switching unit.

In case of manual setting of the requested value the evaluation is also realized and if it is important to intervene, the radio signal is sent.

In case of power cut of the switching unit, it is detected by the measuring unit only during the next communication trial. After the power supply renewal, the switching unit's status is activated also only during the next communication trial. The time set in the „7“ parameter (record period) is the longest recovery time in case of constant operation. If the humidity or the requested temperature gets changes, this time is shorter.

In case of power cut of the measuring unit, the switching unit detects its absence during the parameter time 7 + 1 minutes. After this time the switching unit turns off the fan as well as the compressor (if they were turned on before).

PARAMETERS' CONFIGURATION

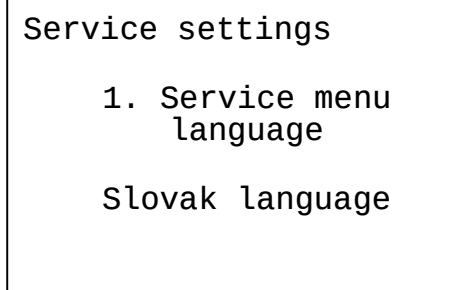
For entering into the configuration menu, please keep the service button pressed and at the same time press the control wheel. The service button is located under the display and is accessible after removing the plastic cover.

For setting the requested parameter use the control wheel rotation.

Press the wheel for confirmation and continuing on the next configuration side.

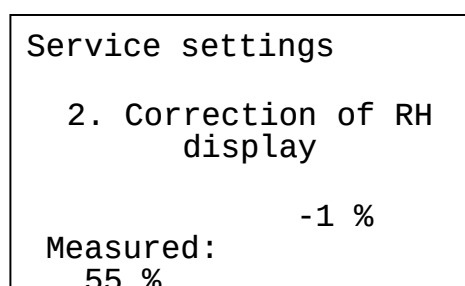
Description of configuration screens:

1. Service menu language



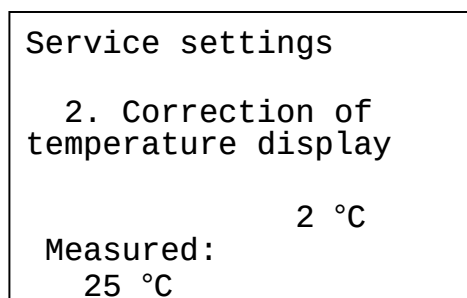
The menu's language is chosen here. By wheel revolution choose the requested language and then by pressing it confirm your setting. In case have not chosen any other languages, by pressing the wheel you get into the next configuration side.

2. Correction of relative humidity display



In this window it is possible to set the correction coefficient of relative humidity display. This coefficient is simply added to the measured humidity. It is possible to monitor the corrected measuring data in the button part.

3. Correction of temperature display



In this window it is possible to set the correction coefficient of temperature display. This coefficient is simply added to the measured temperature. It is possible to monitor the corrected measuring data in the button part.

4. Hysteresis of dehumidification

Service settings
4. Hysteresis of dehumidification control
2 %

In this window it is possible to set the hysteresis of dehumidification switching, as this is a two position regulation. The hysteresis field is always located right above the requested value.

5. Heating hysteresis

Service settings
5. Hysteresis of heating control
1 °C

In this window it is possible to set the hysteresis of heating switching, as this is a two position regulation. The hysteresis field is always located right under the requested value.

6. Data measuring period

Service
6. Time interval of data measuring
10 sec

This window provides a time interval setting between humidity and temperature measurements. The less often setting saves battery energy but also prolongs the regulation cycle.

7. Date recording period

```
Service settings
7. Time interval of
   data recording
           10   min
```

This window provides a time interval setting between the records. The less often setting saves battery energy but also prolongs the regulation cycle.

8. Time of display lighting

```
Service settings
8. Time of display
   lighting
           3   sec
```

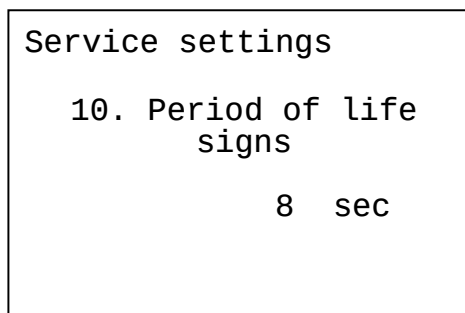
The lighting is activated by wheel rotation or pressing. During the time of inactiveness it is still on until the time set in this window. The value must be adjusted to the lighting conditions at the installation place. In case of sufficient external alight the lighting can be turned off totally. By this the batteries' longevity is considerably prolonged. In case of installing with the network power supply, the lighting can be switched on permanently too.

9. Time until display turn off

```
Service settings
9. Time until display
   turn off
           20   sec
```

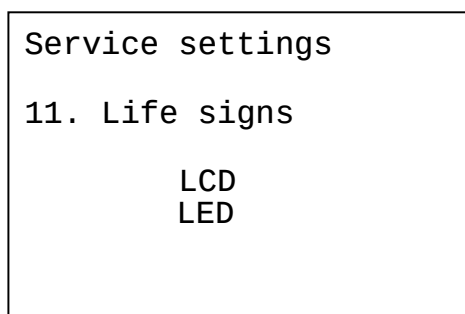
This window is for time setting, as long as the display is active. After this time has passed the display switches to the saving mode with a considerably lower consumption.

10. Period of life signs



In case of active screen saver there is an arrow icon with wheel shown on the display or the LED diode blinks under it. The display/blinking period is set in this window.

11. Life signs



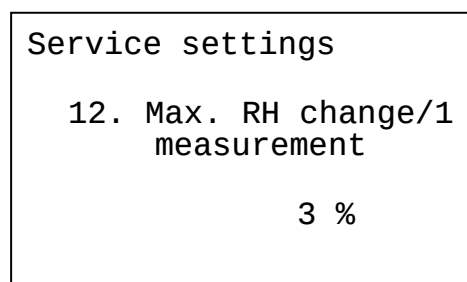
Tu sa volí spôsob, akým zariadenie dáva najavo, že je v šetriacom móde.

The way of indicating the device's presence in the saving mode is chosen here.

There are 4 possible variants

Turned off:	the screen saver is not used
LCD:	only the „Arrow with a wheel“ icon is shown on the display
LED:	only LED diode blinks under the display
LCD + LED	The „Arrow with a wheel“ icon is shown together with a LED diode blinking

12. Maximal humidity change per one measurement



In this window the device sensitivity to humidity changes can be reduced, by defining the max. value by which the RH can be changed against the previous measurement. By this it is possible to filter out the sudden humidity changes.

13. Receiving (switching) unit

```
Service settings
13.Receiving unit
  00 07 B1 01
  00 07 B1 A2

  SEEK
-> FINISHED
```

In this window it is possible to allocate one or more switching units to the unit of measure. The function is chosen by wheel revolution and arrow moving in up and down directions and by pressing the wheel the function gets activated. After the first entry into this window, the network addresses of switching units chosen yet are displayed. At this point it is possible to leave the window without any parameter changes by choosing „FINISHED“ item.

After choosing the SEEK function the searching for accessible switching units get started, the network addresses of found units are displayed in the window. By moving the arrow to the requested address and pressing the wheel, this unit can be chosen for receiving, by pressing it once more the choice is cancelled. The unit choosing is signalized by a pipe next to the network address. The chosen addresses must be confirmed by „FINISHED“ item.

If there is not any network address chosen in the measuring unit, the unit will control the first accessible switching unit.

14. Transmission minimizing

Service settings

14. Transission
minimizing

SWITCH ON

In here you can choose the mode in which the switching unit transmits only in case the dehumidification is needed. By switching this mode on, the batteries' longevity is prolonged, however the data are periodically recorded only during the dehumidification being on.

SWITCHING UNIT

The switching unit status is directly displayed by LED diodes on the switching unit's cover in a following way.

green: power supply status and status of radio communication between the equipments

- constant shining: equipment under pressure, unsuccessful radio communication, control unit out of operation or out of impact
- blinking: equipment under pressure, successful radio communication

blue: dehumidification status. When shining, the fan relay is being switched on. After a 4 minute layoff the compressor's relay is switched on too.

yellow: heating status. When shining, the heating relay as well as the fan relay are being switched on.

white: shining as yellow

defrosting status. The detector of ice coating on the evaporator reacted. Only the fan operates.

red: shining as red

Status of compressor motor failure. The motor's overheating sensor reacted. The dehumidification part is laid off, only the heating part operates. The dehumidification can start only after the motor's cooling down.

DATA TRANSMISSION INTO THE MEMORY PEN

If you wish to transfer the measured and saved data for diagnosing the equipment operation, please follow the following instructions:

- Dismount the switching unit's cover by releasing 4 screws
- Insert the USB pen into the USB connector – the green LED diode blinks and the unit identifies the USB pen. This status will last for cca. 5 seconds.
- Only the white LED diode lights up – the data transmission starts
- The green LED diode blinks – the data get saved in the pen
 - The white LED diode lights up while the green LED diode with USB sign is alight constantly – the transmission is finished
- Pull out the USB pen from the equipment
- Install the cover by 4 screws.

The data are saved in the pen in the „HYGRO.LOG“ file and are divided from each other by spaces. The first line is descriptive and the second one describes the fields. The rest of the lines contents recordings – each record is in a new line. For further data processing it is suitable to use a table processor. When loading there should be a “space” set as a divider.

POWER SUPPLY

The switching unit must be connected in accordance with the following description:

Clamper name	Function
<i>L</i>	<i>Supply phase of the equipment and the connected devices.</i>
<i>N</i>	<i>Working zero</i>
<i>FAN</i>	<i>Fan connection.</i>
<i>COMP</i>	<i>Connection of compressor's contactor.</i>
<i>HEAT</i>	<i>Connection of electro valve for heating control.</i>
<i>FROST</i>	<i>NTC sensor of ice coating.</i>
<i>OVHEAT</i>	<i>NTC sensor of compressor's overheating.</i>
<i>COM</i>	<i>Common wire (conductor) of both NTC sensors.</i>

The switching unit is delivered with an installed resistor 1K between FROST and COM clampers. This way it is prepared for operation without NTC heat sensors. In case of sensors' connection, it is necessary to disconnect the resistor.

Important warning:

Never disconnect the antenna from the receiver if the equipment is under pressure.

This may damage the receiver. Make sure that you always disconnect the energy supply first when intending to disconnect the antenna.

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Please keep this user's manual in a safe place so you will find it in case of need.

